

AMENDMENT TO THE CLAIMS:

1. (Currently Amended) A dental mirror comprising:

a reflector having a light transmitting aperture ~~[[portion]]~~ provided in the center or in any other portion of the reflector ~~[[dental mirror]]~~ for transmitting light therethrough, and

a CCD camera secured in a position adjacent to a back surface of the reflector ~~on a back surface of the dental mirror in such a manner that the light transmitting portion of the dental mirror is in optical communication~~ with an incident portion of the CCD camera adjacent to and in optical communication with the light transmitting aperture of the reflector.

2. (Currently Amended) A dental mirror comprising:

a reflector having a light transmitting aperture ~~[[portion]]~~ provided in the center or in any other portion of the reflector ~~[[dental mirror]]~~ for transmitting light therethrough,

a CCD camera secured in a position adjacent to a back surface of the reflector ~~on a back surface of the dental mirror in such a manner that the light transmitting portion of the dental mirror is in optical communication~~ with an incident portion of the CCD camera for capturing an image in a patient's mouth being adjacent to and in optical communication with the light transmitting aperture of the reflector, and

a transmitter connected to the CCD camera ~~secured in the dental mirror~~ for transmitting an image captured by the CCD camera.

3. (Currently Amended) An intraoral camera system comprising:

a dental mirror including a reflector having a light transmitting aperture ~~[[portion]]~~ provided in the center or in any other portion of the reflector ~~[[dental mirror]]~~ for transmitting light therethrough,

a CCD camera secured in a position adjacent to a back surface of the reflector ~~on a back of the dental mirror in such a manner that the light transmitting portion of the dental mirror is in optical communication~~ with an incident portion of the CCD camera being adjacent to and in optical communication with the light transmitting aperture of the reflector,

a transmitter connected to the CCD camera ~~secured in the dental mirror~~ for transmitting an image captured by the CCD camera, and

a visual monitor for displaying the image captured by the CCD camera as transmitted by the transmitter.

4. Cancelled.

5. Cancelled.

6. (Currently Amended) An intraoral camera system ~~as set forth in Claim 5, further~~ comprising:

a dental mirror including a reflector having a light transmitting aperture provided in the center or in any other portion of the reflector for transmitting light therethrough,

a CCD camera secured in a position adjacent to a back surface of the reflector with an incident portion of the CCD camera being adjacent to and in optical communication with the light transmitting aperture of the reflector,

a [[hand mirror shaped]] visual monitor shaped as a hand mirror for displaying image data received from the CCD camera ~~via cable or radio~~, and

a server ~~that is capable of~~ for storing and outputting the image data any time onto the monitor,

wherein even though a patient is in a horizontal position, the patient or a third party can utilize [[said]] the hand mirror shaped visual monitor to view an image [[which is very]] close to the image that a dentist views as a reflection from the dental mirror having the CCD camera built therein.

7. (Currently Amended) The intraoral camera system as set forth in ~~Claim 5~~ Claim 3 further comprising a server [[capable of]] for storing image data captured by the CCD camera and outputting the image data as required to project the stored image data on the monitor on an as needed basis.

8. (Currently Amended) The intraoral camera system as set forth in ~~Claim 5~~ Claim 3, wherein the monitor is made in form of a hand mirror such that the CCD camera image data received ~~via cable or radio~~ can be viewed without changing the patient's position.

9. (Currently Amended) The intraoral camera system as set forth in ~~Claim 5~~ Claim 3, further comprising:

the visual monitor being a liquid crystal plate having a light transmitting ~~[[portion]]~~ aperture at the center where some liquid crystal material is removed to transmit light therethrough, and

a CCD camera provided on ~~[[the]]~~ a back surface of the liquid crystal plate ~~in such a manner that the light transmitting portion from which a reflective material is removed coincides~~ with an incident portion of the CCD camera being adjacent to and in optical communication with the light transmitting aperture,

~~[[thereby projecting]]~~ whereby an object located in front of the CCD camera is projected on a ~~[[liquid crystal]]~~ screen of the liquid crystal plate in the same manner that a reflector projects the object.

10. (Currently Amended) The intraoral camera system as set forth in Claim 8, which further comprises an image conversion processor for inverting data input from the CCD camera at the center of the hand mirror shaped liquid crystal screen upside down or backside forward or counterclockwise or clockwise.

11. (Currently Amended) The intraoral camera system as set forth in ~~Claim 5~~ Claim 3,

wherein the CCD camera is rotatably attached to the center of the back surface of the reflector ~~[[dental mirror]]~~, and

wherein the dental mirror further comprises

a gear attached to ~~[[the]]~~ a same rotary shaft as that of the CCD camera such that the gear rotates around the CCD camera,

a micromotor provided on the back surface of the [[dental mirror]] reflector such that the motion of the micromotor is incorporated with that of the gear,

a battery provided inside a holder for the [[dental mirror]] reflector for driving the micromotor,

a gyro sensor provided inside the holder ~~for the dental mirror holder~~ for outputting a signal associated with an angle of inclination of [[said]] the dental mirror to a horizontal plane, and

a controller for driving the micromotor in accordance with the signal from the gyro sensor to control rotation angles of the CCD camera,

thereby allowing an image captured at a preset angle to be displayed regardless of the angle at which a dentist holds or insert the dental mirror into the patient's mouth.

12. (Currently Amended) An intraoral camera system comprising:

a dental mirror including a reflector having an aperture [[a portion]] for transmitting light therethrough, the light transmitting aperture [[portion]] being provided in the center or in any other portion of the reflector ~~dental mirror by removing a reflective material therefrom~~, and

an optical fiber having [[its]] one end connected to the back of the [[dental mirror]] reflector in such a manner that an incident portion and an illumination portion coincide each other at the light transmitting aperture [[portion]], the other end of the optical fiber being [[provided]] in optical communication with a CCD camera and a illumination light source for inputting an image in the field of view obtained at the incident portion, wherein the CCD camera is located external to the dental mirror and the optical fiber is removably attached to the external CCD camera, and

a visual monitor for displaying image data received from the external CCD camera [[by radio or cable]].

13. (Currently Amended) The intraoral camera system as set forth in Claim 12

wherein the external CCD camera is [[placed in]] located on the front of the monitor screen, and

~~wherein the optical fiber that is removably attached to the CCD camera, and~~

~~wherein, whereby~~ when the optical fiber is removed, [[the]] an image captured by the CCD camera [[attached to]] located on the front of the monitor [[screen]] is displayed, ~~thereby providing the intraoral camera system as a hand mirror.~~

14. (Currently Amended) The intraoral camera system as set forth in Claim 12, further comprising:

a hose made of a flexible material [[that is]] connected to a compressor,

an air exhaust pipe[[, whose]] having one end [[is]] connected to the hose and the other end is provided with a jet nozzle pointing toward ~~the CCD camera attached to the dental mirror~~ and the incident portion of the optical fiber, whereby air is injected onto ~~the CCD camera attached to the dental mirror~~ and the incident portion of the optical fiber, thereby enhancing the field of view thereof.

15. (Currently Amended) The intraoral camera system as set forth in Claim 14, wherein an additional hose [[made]] of a flexible material is connected to a vacuum device, and the air exhaust pipe has a suction inlet connected to the additional hose at a point [[which is]] suited to

suck exhausted air from the jet nozzle, so as to inject air and to discharge air ~~to/from the CCD camera and to/from~~ to and from the optical fiber's incident portion while sucking air therefrom, thereby preventing a patient's mouth from drying and enhancing [[the]] field of view.

16. (Currently Amended) The intraoral camera system as set forth in [[Claim 1]] Claim 3 further comprising [[a]] a heater provided at a position in the dental mirror where the heater does not shield the incident portion of the CCD camera but inhibits fogging of the reflector and the incident portion of the CCD camera due to breathing by a patient ~~on back of the dental mirror for preventing the mirror surface and a surface of the incident portion from fogging due to the patient's breathing, thereby providing a clear image.~~

17. (Currently Amended) [[A]] The dental mirror as set forth in Claim 1 further comprising:

~~a light transmitting portion provided in the center or any other portion of the dental mirror for transmitting light therethrough, and~~

~~a CCD camera secured on a back of the dental mirror in such a manner that the light transmitting portion of the dental mirror is in optical communication with the CCD camera for capturing an image in a target area in a patient's mouth, and~~

a light source in optical communication with the light transmitting aperture [[portion]] for illuminating the target area in the patient's mouth.

18. (Currently Amended) A dental mirror comprising:

a reflector having a light transmitting aperture provided in the center or in any other portion of the reflector for transmitting light therethrough,

a CCD camera secured in a position adjacent to a back surface of the reflector with an incident portion of the CCD camera adjacent to and in optical communication with the light transmitting aperture of the reflector ~~attached to the center of a back surface of a dental mirror,~~

a gear attached to ~~[[the]]~~ a same rotary shaft as that of the CCD camera such that the gear rotates around the CCD camera,

a battery driven micromotor,

a battery positioned inside the dental mirror,

a gyro sensor for outputting a signal that incorporates a motion of the gyro sensor with that of the gear on inclination of the dental mirror to a horizontal plane or floor, and a control mechanism for controlling the rotation angle of the CCD camera in accordance with the signal from the gyro sensor.

19. (Currently Amended) A method for performing dental operation by a dentist, comprising the steps of:

preparing a dental mirror with a CCD camera, wherein the dental mirror includes a reflector having a light transmitting aperture provided in the center or in any other portion of the reflector for transmitting light therethrough, and wherein the CCD camera is secured in a position adjacent to a back surface of the reflector with an incident portion of the CCD camera for capturing an image in a patient's mouth being adjacent to and in optical communication with the light transmitting aperture of the reflector ~~attached to the center of a back surface of the dental mirror;~~

placing the dental mirror into a patient mouth so as to capture an image in a target area in the patient's mouth;



providing the patient with a visual display of the image captured by the CCD camera ~~on the dental mirror~~ to convey the image viewed by the dentist directly ~~the dentist directly views~~ to the patient when the dentist ~~[[described]]~~ describes the condition of ~~[[a disease in]]~~ the target area in the patient's mouth.

20. (Currently Amended) The method as set forth in Claim 19, wherein the visual display is provided by a ~~[[hand mirror shaped]]~~ LCD monitor shaped as a hand mirror.